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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,506	12/20/2004	Maurizio Earico Tonin	66309-208	8382
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JOHN P. DE LUCA 17420 RYEFIELD CT. DICKERSON, MD 20842			EXAMINER NALVEN, EMILY IRIS	
			ART UNIT 3744	PAPER NUMBER
			MAIL DATE 05/28/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/518,506

Applicant(s)

TONIN, MAURIZIO ENRICO

Examiner

EMILY I. NALVEN

Art Unit

3744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Response to Amendments

Receipt of amendment filed on Feb. 10, 2008 is acknowledged.

Claim Objections

1. **Claims 1-6** are objected to because of the following informalities:

In regard to claim 1, the recitation "the separating wall" (line 21) is presumed to be -- the plate -- to further clarify the claim limitations.

In regard to claims 2-5, they are objected to for being dependent on an objected claim.

In regard to claim 6, the recitation "a second compartment" (line 8) is presumed to be -- said second compartment -- to further clarify the claim limitations. The recitation "first and second parts" (line 15) is presumed to be -- first and second compartments -- to further clarify the claim limitations.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. **Claim 1** is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The plate between the first and second part (claimed in claim 1 lines 13-17) is not explicitly shown or mentioned in the specification and drawings.

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3. **Claims 2-5** are rejected under 35 U.S.C. 112, first paragraph for being dependent on claim 1 which is rejected under 35 U.S.C. 112, first paragraph.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. **Claim 9** is rejected under 35 U.S.C. 102(b) as being anticipated by Riello (US Patent No. 4,067,204).

In regard to claim 9, Riello teaches an air conditioner (10) adapted to be located in a through hole having a central axis (made by inserting casing of air conditioner 10 into the plane of panels 82 and 84 – see Fig. 2 – axis is the middle of the hole) formed in a building wall extending between a room inside the building to outside the building (see Fig. 2) comprising a housing (10) (col 3 lines 50-54) forming a channel (26, 28) having a central axis aligned with the axis of the hole, said housing (10) having opposite ends (one end facing toward outside of the building and the other toward the inside), the housing (10) being positioned in use in the hole with the ends positioned one each in the room and outside the building along said axis (see Fig. 2), a separating wall (24) (col 3 lines 66-68) disposed in the channel (26, 28) (see Fig. 3) forming first (top – where condenser 38 is located) and second (bottom where evaporator 36 is located) compartments (see Fig. 3) lying in a plane perpendicular to the central axis of the housing (the

central axis goes across the housing from the outside to the inside while the first and second compartment lie perpendicular to this plane spanning the length of the outside and inside of the buildings).

Riello also teaches a condenser unit (38) disposed in the channel (28) in the first compartment near the outside end of the housing (see Fig. 2 and Fig. 3), an evaporator unit (36) disposed in the channel (26) in the second compartment (lower – as seen in Fig. 3) near the inside end of the housing (see Fig. 2 and Fig. 3), in a portion of the housing located in the room (see Fig. 3), the second compartment and the wall (24) thereby isolating the condenser (38) compartment from the room (via the wall 24 - see Fig. 3).

Riello also teaches the condenser unit (38) and the evaporator unit (36) being arranged in the respective compartments of the housing in alignment along the channel one behind the other (see Fig. 3 – where the one is behind the other when looking at the perpendicular to wall 24) and on opposite side of the wall (24) separating the first and second compartments (see Fig. 3), said wall (24) being perpendicular to the central axis of the housing (parallel to planes 82 and 84) (see Fig. 2 and Fig. 3).

Riello also teaches the compartment of the housing near the inside the room having an inlet (18) into the room for air (see Fig. 3 and col 3 lines 64-66) and a pair of outlets (20, 22) into the room for circulating air to be cooled therethrough (see Fig. 3 and col 3 lines 64-66). Riello teaches the inlet (18) lying in a plane parallel to the plane (24) separating the evaporator (36) and condenser (38) (see Fig. 3). The opening of inlet (18) is parallel the front face of the wall (24). Riello also teaches each outlet (20, 22) lying in a corresponding plane (parallel to the plane of the opening of the inlet 18 – see Fig. 3) one above (22) the inlet (18) and one below (20) the inlet (as seen from a bird's eye view in Fig. 3), each corresponding plane lying at an angle with respect to the inlet (18) (see Fig. 3). It is interpreted that at an angle can be anywhere from 0 degrees to 360 degrees. Riello also teaches the portion of the housing outside the building having an inlet (60) and outlet (62) for circulating heated air from the condenser (38) to outside the housing (10) wherein said inlet (60) and said outlet (62) being placed in a substantially vertical plane (vertical to the Y-Y plane and perpendicular to 82, 84) (see Fig. 2 and Fig. 3). The special inlet 60 and outlet 62 has slots which create openings additions from the openings 16 and 18 that force the air to circulate in a particular manner depending on the size and angle of the slots.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be

patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 1, 2 and 6** are rejected under 35 U.S.C. 103(a) as being unpatentable over Riello (US 4,067,204) in view of Bottaro et al. (WO 01/07837).

In regard to claim 1, Riello teaches an air conditioner (see Figs. 1-5) for cooling a room of a building (col 1 lines 7-10) having an outside wall (80) (see Fig. 2) with an inside surface and an outside surface (see Fig. 2) and a through opening (made by inserting casing of air conditioner 10 into the plane of panels 82 and 84 – see Fig. 2) comprising a housing (10) forming a single container in communication with the room (see Fig. 2 and Fig. 3), the housing having a first part (in space 26) and a second part (in space 28) (see Fig. 3), a condenser unit (38) crossed by a flow of air external to the room to be conditioned between an inlet (20) and an outlet (22) arranged in the first part of the housing (see Fig. 3), an evaporator unit (36) crossed by a flow of air internal to the room to be conditioned between an intake (16) and a delivery way (18) arranged in said second part (28) of the housing (10) (see Fig. 3).

Riello also teaches a plate (24) secured between the first (26) and second part (28) in a plane perpendicular to the axis (the plane 24 goes across the length of the air conditioner while the axis goes into the room from the outside, thus being perpendicular), only said second part (28) of said housing (10) projecting inside said room to be conditioned (see Figs. 1, 2; Abstract, lines 1- 3), the plane in

which the plate is located said first and second parts are aligned one behind the other (Fig. 3), said inlet and said outlet consisting of two holes (col. 3 lines 64-65), the perimetral external surface of said first part 26 of said container being suited to be coupled to the surfaces of an opening made in a wall (see Fig. 1, 2; col. 2, lines 47-55; col. 6, lines 27- 29). However, Riello does not explicitly teach said evaporator unit 36 with an inclined air delivery opening pointing downwards.

Bottaro et al. teach an evaporator unit 3 with an inclined air delivery opening (43) pointing downwards (see Fig. 3, page 1 lines 13-16). Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made to modify the system of Riello with the system taught by Bottaro et al. in order to provide consumers with the most efficient wall-mounted air conditioner that could be positioned at a high distance from the floor, in proximity to the ceiling.

In regard to claim 2, Riello discloses in Figures 1-5 a fore wall (12) with substantially circular holes (16 and 18; col. 1, lines 22-26) having a large diameter through which the room air is circulated. However, he does not disclose that the rear wall holes (20 and 22) are circular and having a diameter of 160 mm or greater.

At the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to modify the outside holes

as circular with said diameter 160 mm and more, because Applicant has not disclosed that the outside holes with this diameter provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with circular holes of that diameter to ensure adequate room ventilation.

In regard to claim 6, Riello teaches an air conditioner installation comprising an air conditioner (10) (see Figs. 1-5) including a housing (10) formed with first (in the region indicated by 26) and second (in the region indicated by 28) compartments (see Fig. 3) and a separating wall (24) between said first and second compartments (see Fig. 3 and col 3 lines 66-68), a condenser unit (38) enclosed in said second compartment (see Fig. 3) crossed by a flow of air external to the room to be conditioned between at least an inlet (22) and at least an outlet (20), an evaporator unit (36) crossed by a flow of air internal to the room to be conditioned between at least an intake (16) and at least a delivery way (18), said first and second compartments being aligned behind each other according to an axis parallel to the direction of the inlet (22) and the outlet (20) of said external air flow, through said at least one inlet and at least one outlet of said condenser unit (38) and on opposite sides of the separating wall (24) lying in a plane perpendicular to said direction (see Fig. 2 and Fig. 3), said inlet (22) and said outlet (20) being placed in a substantially horizontal plane (14, see Figs. 3, 4), said inlet and outlet consisting of two holes (20, 22), a wall of said room to be

conditioned facing the outside and having an opening suited to house air conditioner (see Figs. 1, 2), the said part of said container projecting inside said room. However, Riello does not explicitly teach that the opening of said wall is placed substantially in the top of said wall; the perimetral external surface of said second part of said container being suited to be coupled with the surfaces of an opening made in a wall of said room and delivery openings of said delivery way being inclined downwards.

Bottaro et al. teach the opening of said wall is placed substantially in the top of said wall (see Fig. 3); the perimetral external surface of said second part of said container being suited to be coupled (see Fig. 3) with the surfaces of an opening made in a wall of said room (see Figs. 1-4; page 1, line 2) and delivery openings of said delivery way (43) being inclined downwards (see Fig. 3, page 1, lines 13-16).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made to modify the system of Riello with system taught by Bottaro et al. in order to provide consumers with the most efficient wall-mounted air conditioner that is positioned at a high distance from the floor, in proximity to the ceiling 7.

7. **Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over Riello (US 4,067,204) in view of Bottaro et al. (WO 01/07837), and further in view of Nakagawa et al. (US 2003/0167786).

Riello teaches most of the claim limitations, however he does not teach the intake of said evaporator unit (36) comprises a first vertical intake and a second inclined intake pointing upwards.

Nakagawa et al. teach (Figure 1) an intake system of a conventional air conditioner (10), comprising a first vertical intake ("a front air inlet" 10a) and a second inclined intake pointing upwards ("a top air inlet" 10b; col. 1, para 3). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the system of Riello and Bottaro et al with the front air inlets and the top air inlets provided in the front and top surface of the air conditioner body as taught by Bottaro et al. for the purpose of greatly increasing the air moving efficiency of the apparatus and developing energy energy-efficient technologies for buildings.

8. **Claims 4-5** are rejected under 35 U.S.C. 103(a) as being unpatentable over Riello (US 4,067,204) in view of Bottaro et al. (WO 01/07837), and further view of Laing (US 3,279,209).

Riello and Bottaro et al. teaches most of the claim limitations, however they do not explicitly teach that fan (32) is arranged upstream to said condenser (38); and a fan (30) arranged upstream to said evaporator (36).

Laing teaches a condenser unit comprising a condenser (13) and a fan (20) arranged upstream to said condenser (Fig. 1); and an evaporator unit comprises an evaporator (12) and a fan (19) arranged upstream to said evaporator (Fig. 1).

It would have been obvious to one having ordinary skill in the art at the time of invention was made to modify the system of Riello and Bottaro et al. with the system taught by Laing in order to improve efficiency of the room air conditioning system that is mounted at a high distance from the floor, in proximity to the ceiling.

Response to Arguments

Applicant's arguments filed on Feb. 10, 2008 have been fully considered but they are not persuasive.

The Applicant claims that the amendments to the independent claims, distinguish the application over the cited prior art of reference. However, Riello explicitly teaches a wall (24) separating the condenser and evaporator (see Fig. 3) and the plane of the wall being perpendicular to the central axis (which goes from the outside of the building to the inside). The noise made by the compartments is not a claimed limitation and are not structural requirements in an apparatus claim. Additionally, the placement of the compressor is not claimed and as such it is not required to be near the outside of the building. As such, the arguments made in regard to the placement of the compressor are deemed moot.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emily Iris Nalven whose telephone number is 571-272-3045. The examiner can normally be reached on Monday - Thursday 8 AM - 5:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl J. Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Emily Iris Nalven
Art Unit 3744
May 20, 2008
/Emily Iris Nalven/

/Frantz F. Jules/

Supervisory Patent Examiner, Art Unit 3744